

2. The polishing apparatus of Claim 1, wherein said at least two polishing surfaces are movable.

3. The polishing apparatus of Claim 2, wherein said at least two polishing surfaces are rotatable.

4. (Amended) The polishing apparatus of Claim 3, wherein said at least one substrate head assembly comprises at least two substrate head assemblies capable of supporting thereon respective substrates.

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5. (Amended) The polishing apparatus of Claim 4, wherein said at least two substrate head assemblies are simultaneously positionable to respective horizontal positions corresponding to respective ones of said at least two polishing surfaces.

6. The polishing apparatus of Claim 5, wherein at least two of said substrate head assemblies are linearly and reciprocally movable in said rotatable support member independently of each other.

7. The polishing apparatus of Claim 6, further comprising at least two motors mounted on said rotatable support member and coupled to respective ones of said substrate head assemblies to move them linearly and reciprocally in said rotatable support member.

8. (Amended) The polishing apparatus of Claim 7, wherein said substrate head assemblies are slidably mounted in respective linear slots formed in said rotatable support member, and further comprising:

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at least two lead screws independently rotated by respective ones of said motors; and threaded members mounted to respective ones of said substrate head assemblies and threadably and rotatably receiving respective ones of said lead screws.

9. The polishing apparatus of Claim 8, wherein said slots have open ends in said rotatable support member opposite said first axis and wherein each of said substrate head assemblies includes a respective head motor, and a substrate holder for selectively holding a substrate, wherein said substrate head assemblies are insertable in said slots from said open ends with said head motors disposed above and extending laterally of said slots and with said substrate holders disposed below and extending laterally of said slots.

10. The polishing apparatus of Claim 9, wherein said substrate head assemblies are linearly and reciprocally movable along respective radii of said rotatable support member passing through said first axis.

11. (Amended) The polishing apparatus of Claim 10, wherein each of said head assemblies includes a vertically movable substrate head providing sufficient vertical movement to engage and disengage a substrate held thereon from said selected polishing surface.

19. ¹¹² (Amended Twice) A polishing apparatus, comprising:
a support member rotatable about a first axis;
at least two polishing surfaces arranged about said first axis;
at least two substrate head assemblies each capable of supporting thereon at least one substrate in contact with a selected one of said polishing surfaces and each being supported on said support member, reciprocal movement being provided between said substrate head and said selected polishing surface during engagement of said substrate with said selected polishing surface.

20. ¹³ ₁₂ The polishing apparatus of Claim 19, wherein said substrate head assemblies are linearly and reciprocally movable in said support member independently of each other.

21. ¹⁵ ₂₈ ¹⁴ (Amended Twice) The polishing apparatus of Claim 20, further comprising at least two motors mounted on said support member and coupled to respective ones of said substrate head assemblies to move them linearly and reciprocally in said support member.

20. ¹⁴ The polishing apparatus of Claim 21, wherein said substrate head assemblies are slidably mounted in respective linear slots formed in said support member, and further comprising:

at least two lead screws independently rotated by respective ones of said motors; and threaded members mounted to respective ones said substrate head assemblies and threadably and rotatably receiving respective ones of said lead screws.

23. ¹⁷ The polishing apparatus of Claim 20, ¹⁶ wherein said slots have open ends in said support member opposite said first axis and wherein each of said substrate head assemblies includes a respective head motor, and a substrate holder for selectively holding a substrate, wherein said substrate head assemblies are insertable in said slots from said open ends with said head motors disposed above and extending laterally of said slots and with said substrate holders disposed below and extending laterally of said slots.

D7 24. ¹⁸ (Amended) The polishing apparatus of Claim 23, ¹⁷ wherein each of said substrate head assemblies is capable of rotating about a head axis of said substrate head assembly, said head axis being substantially parallel to said first axis.

25. ¹⁹ The polishing apparatus of Claim 24, ¹⁸ wherein said substrate head assemblies are linearly and reciprocally movable along respective radii of said support member passing through said first axis.

26. ²⁰ The polishing apparatus of Claim 25, ¹⁹ wherein each of said head assemblies includes a vertically movable substrate head providing sufficient vertical movement to engage and disengage a substrate held thereon from said polishing surface.

B8 26. ¹⁴ (Amended) The polishing apparatus of Claim 19, ¹⁸ wherein said substrate head assemblies are capable of linear and reciprocal motion with respect to said support member.

wherein one of said substrate heads located at one of said polishing positions and one of said platens located at said one polishing position are movable toward and away from each other providing periodic variation of a distance between said first and second axes associated with said one substrate head and said one platen.

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37. The polishing apparatus of Claim 36, comprising (N+1) of said substrate heads and N of said polishing stations located at N polishing positions, where $N > 1$; and

further comprising a load/unload station disposed at a load/unload position for transferring substrates to and from any of said substrate heads;

wherein said N polishing positions and said load/unload positions are located at (N+1) positions equiangularly arranged about a rotation axis of said support.

Please add claims 38-42.

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-- 38. (New) A polishing apparatus, comprising:

a support member rotatable about a first axis;

at least two polishing surfaces arranged at respective angular positions about said first axis;

at least one substrate head assembly supported on said support member, the substrate head assembly:

having a central axis substantially parallel to but offset from the first axis;

capable of supporting thereon a substrate in contact with a selected one of the polishing surfaces; and

linearly and reciprocally movable in the support member along a radii of the support member passing through the first axis, thereby affording relative linear movement between the selected polishing surface and the substrate head assembly while the substrate supported on the substrate head assembly is engaged with the selected polishing surface.

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39. (New) The polishing apparatus of claim 38, wherein the at least two polishing surfaces are rotatable.

40. (New) The polishing apparatus of claim 39, wherein the at least one substrate head assembly comprises at least two substrate head assemblies, each capable of supporting thereon a substrate, the two substrate head assemblies being simultaneously positionable to respective positions corresponding to respective ones of the at least two polishing surfaces.

41. (New) The polishing apparatus of claim 40, further comprising:
at least two motors mounted on the support member and coupled to respective ones of the substrate head assemblies to move them linearly and reciprocally in the support member.

42. (New) The polishing apparatus of claim 41, wherein each of the substrate head assemblies includes a vertically movable substrate head providing sufficient vertical movement to engage and disengage a substrate held thereon from the respective selected polishing surface.--

29. ²¹ A polishing apparatus, comprising:

(N+1) substrate head assemblies each capable of supporting thereon a respective substrate, wherein N is greater than 1;

a support member rotatable about an axis and supporting said substrate head assemblies at (N+1) first positions equiangularly disposed about said axis;

a load/unload mechanism for transferring a substrate to and from any of said substrate head assemblies rotated to a position adjacent thereto; and

N polishing surfaces engageable with respective ones of substrates supported on said substrate head assemblies;

wherein said N polishing surfaces and said load/unload mechanism are located to allow said N polishing surfaces to engage respective ones of N substrates supported on N of said substrate head assemblies while said load/unload mechanism is transferring another substrate to or from yet another of said substrate head assemblies.

30. ²¹ The polishing apparatus of Claim 29, ²¹ wherein said N polishing surfaces and said (N+1) substrate head assemblies provide rotary engagement between said N polishing surfaces and corresponding ones of N substrates.

31. ²³ The polishing apparatus of Claim 30, ²¹ wherein said N polishing surfaces and said (N+1) substrate head assemblies provide additional linear and reciprocal engagement between said N polishing surfaces and corresponding ones of N substrates.

36. ²⁴ A polishing apparatus, comprising:

a plurality of substrate heads rotatable about respective first axes and capable of supporting respective substrates thereon;

a plurality of platens rotatable about respective second axes and having respective polishing surfaces;

a rotatable support supporting said substrate heads and capable of positioning any of said substrate heads at polishing positions adjacent any of said platens;